

Revolving Door Lobbyists[†]

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Lobbying is widely regarded as an important component of the US political system and has received considerable attention among scholars of political institutions and policy outcomes (Grossman and Helpman 2001; Ansolabehere, de Figueiredo, and Snyder 2003; Baumgartner et al. 2009).

One important characteristic of the US lobbying industry is the extent to which it is dominated by the “revolving door” phenomenon—i.e., the movement of federal public employees into the lobbying industry. For example, 56 percent of the revenue generated by private lobbying firms between 1998 and 2008 can be attributed to individuals with some type of federal government experience (see Table 1). Reflecting this, a recent ranking of the 50 top Washington lobbyists identified 34 as having federal government experience (Eisler 2007). Discussions of the revolving door often feature prominently in journalistic and watchdog group accounts of the lobbying industry (Attkisson 2008; Overby 2011), and unsurprisingly, regulation of the lobbying industry often devotes special attention to the revolving door phenomenon (Maskell 2010).

There are two main views regarding the importance of former government employees in the lobbying industry. The first view contends that revolving door lobbyists are valuable because “Washington is all about connections.” In this view, experience in government allows former officials to develop a network of friends and colleagues that they can later exploit on behalf of their clients (Revolving Door Working Group 2005; Zeleny 2006). To illustrate, a recent profile of a top Washington lobbyist states that

(Nancy) Taylor is a onetime health-policy director on Senator Orrin Hatch's Labor and Human Resources Committee, which had jurisdiction over much drug-patent legislation and food-and-drug laws. . . . Colleagues say as long as Hatch is in the Senate, Taylor will continue to bring in business (Eisler 2007).

A second view, often put forward by lobbyists themselves, is that the importance of individuals with prior government experience is due to higher innate ability

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(Burger 2006; see also Diermeier, Keane, and Merlo 2005; and Mattozzi and Merlo 2008) and/or human capital accumulation (Heinz et al. 1993; Esterling 2004). The higher expertise of revolving door individuals can refer to policy matters, the inner workings of the legislative process, or even the preferences of particular constituencies. For example, a staffer-turned-lobbyist interviewed by the *Washington Post* argues that “[t]he technical processes of the House and Senate are not intuitive or widely known. Like with any service, people who have experience are going to be valuable to people who don’t” (Eggen and Kindy 2009).

Evaluating the relative importance of political connections is therefore critical for understanding the value that lobbyists provide for their clients and, more generally, to assess the role of intermediaries in the lobbying process. It can also both contribute to our understanding of the incentives and selection issues facing government officials and help guide attempts to regulate the revolving door phenomenon.

In this paper we evaluate the extent to which ex-government officials convert their political contacts into lobbying revenue. We do this by studying how the lobbying revenue of congressional staffers-turned-lobbyists depends on the power of the congressional politicians for whom they have worked in the past. Ex-congressional staffers represent the largest single group of revolving door lobbyists (Table 1) and have been the focus of much of the popular discussion regarding the revolving door.

Our main finding is that lobbyists connected to US senators suffer an average 24 percent drop in generated revenue when their previous employer leaves the Senate. The decrease in revenue is out of line with preexisting trends, it is discontinuous around the period in which the connected senator exits Congress, and it persists in the long term. Measured in terms of median revenue per staffer-turned-lobbyist, this estimate indicates that the exit of a senator leads to approximately a \$182,000 per year fall in revenues for each affiliated lobbyist. We also find evidence that ex-staffers are less likely to work in the lobbying industry after their connected senators exit Congress.

We regard the above findings as evidence that connections to powerful, serving politicians are key determinants of the revenue that lobbyists generate. Consistent with this interpretation, we also find that the political power of the exiting politician is a good predictor of the drop in revenue suffered by the connected lobbyist. Lobbyists connected to exiting senators who served in the Finance and Appropriations Committees and to representatives who served in the Ways and Means Committee suffer a substantial drop in revenue when the connected politician leaves office. Lobbyists connected to congressmen in neither of these powerful committees are statistically unaffected by their exits.

We interpret the connections that we study as relational capital (Burt 1992; Kale, Singh, and Perlmutter 2000): links of friendship, mutual trust, or even politician-specific knowledge that allow certain lobbyists to be more effective when particular politicians hold power. Of course, our results do not imply that lobbyists’ general human capital is an irrelevant input for the lobbying production process. In fact, the best way to interpret our results is as estimates of the marginal effect of connections in this industry, with the other factors of production, such as ability and expertise, held constant and at sample levels. Nevertheless, the large magnitude of our estimates does indicate that connections to people in power represent a critical asset for the actors who serve as intermediaries in the lobbying process.

Studies on the congressional revolving door and on the personal relationships between lobbyists and congressmen are scarce, a surprising fact given the popular interest in, and policy relevance of, this topic. Early research used surveys of lobbyists to argue that policy and process knowledge is more important than personal connections (Salisbury et al. 1989; Heinz et al. 1993; Esterling 2004). Very recent evidence, using data made available thanks to the Lobbying Disclosure Act, emphasizes instead the role of personal connections. Eggers (2010) shows that revolving door lobbyists benefit from additional business when their affiliated party has control of the House or the Senate. Bertrand, Bombardini, and Trebbi (2011) measure connections using the contributions that lobbyists make to congressional election campaigns. They first show that the committee assignments of the congressmen who lobbyists are connected to represent a good predictor of the issues that lobbyists work on. More importantly, they also find that lobbyists switch issues in a predictable way as their connected congressmen switch committee assignments. Their conclusion that lobbyists' connections to politicians determine strongly what they do is consistent with the findings of this paper.¹

More generally, our paper is related both to the vast literature on the impact of money on politics (Ansolabehere, de Figueiredo, and Snyder 2003; Stratmann 2005) and to relatively recent research arguing that political connections matter for firm value (Fisman 2001; Johnson and Mitton 2003; Khwaja and Mian 2005; Knight 2006; Faccio 2006; Ferguson and Voth 2008). A remaining issue in the latter body of work is whether such connections can be traded. In other words, if connections to serving politicians are valuable assets, is there a market for them? Our findings suggest that the relation between clients and connected lobbyists in the US federal lobbying industry can be regarded as a market for political connections (arguably the largest in the world) in which companies or interest groups can acquire indirect links to serving politicians by hiring their former employees. Interestingly, this market appears to react quite rapidly to changing circumstances. For instance, we find below that the lobbying revenue generated by ex-staffers drops by a very large percentage one single semester after their ex-employers have left Congress.

The remainder of the paper is structured as follows. In Section I we present our data, in Section II we discuss our empirical strategy, and in Section III we discuss our main results. In Section IV, we conclude.

I. Data

The dataset used for this study is a lobbyist-level panel constructed from two main parts: a database of lobbying reports (Centre for Responsive Politics 2012) released under the Lobbying Disclosure Act of 1995 (hereafter, LDA) and a database of political employment that we construct from two new sources (Columbia Books 2012; LegiStorm 2012).²

¹Our paper was submitted to the *American Economic Review* prior to the first posted version of Bertrand, Bombardini, and Trebbi (2011).

²We also use information on the service and characteristics of politicians. The data used is from Stewart and Woon (2009), and compilation and details for this are given in the online Appendix.

A. Lobbying Database

The LDA required organizations to register and report information on their lobbying activities to the Senate Office of Public Records (SOPR). According to the act, lobbying activity is defined as contacts with officials, including background work performed to support these contacts. Two types of registrants are obliged to report under the LDA: lobbying firms and “self-filing” organizations that conduct in-house lobbying activities. The lobbying firm sector is comprised of firms who take on work for a number of different corporate and noncorporate clients. Self-filing organizations include corporations as well as peak industry groups and nonprofit single-issue organizations. Both types of registrants are required to report good-faith estimates of lobbying expenditures (for self-filing organizations) or lobbying revenue (for lobbying firms) every six months.

In this paper we focus on lobbyists working at lobbying firms.³ The LDA defines a person as a “lobbyist” if they spend 20 percent or more of their time engaged in lobbying activities. Under the LDA, lobbying firms are required to file a separate report for each of their clients. The report must specify the revenue generated from that client, the issues for which the firm was engaged in lobbying, the house(s) of Congress and federal agencies contacted, and the names of the individual lobbyists serving that particular client during that period.

We use the version of the data compiled by the Center for Responsive Politics (CRP), a Washington-based nonprofit organization for the promotion of political transparency. Further details on how CRP has processed and compiled the SOPR informations are displayed in the online Appendix.

B. Political Employment

Our study utilizes two databases on the political employment and career histories of lobbyists. The first database is Lobbyist.info, a professional directory of lobbyists published by Columbia Books. This is an extensive lobbyist directory that contains contact information as well as career histories, biographical information, educational background, and areas of expertise. From this, we extract information on lobbyists who have had periods of political federal employment. The second database that we use is the Congressional Staffer Salaries (CSS) database. The CSS database is obtained by LegiStorm (a political information company) from published reports by the Secretary of the Senate and the Clerk of the House of Representatives.⁴

³The main reason for omitting in-house lobbyists from our analysis is the absence of meaningful individual-level productivity or earnings measures for this group of lobbyists. Expenditures of self-filing organizations include employee compensation, office overheads, and payments to vendors (which include but are not necessarily restricted to lobbying firms). Clearly, expenditures by an organization do not indicate whether a particular lobbyist is effective and/or well compensated at his or her job. For instance, it may be that the lower effectiveness of a lobbyist losing a connection translates into both a decrease in compensation *and* higher expenditures in other areas (such as outside vendors) in order to counteract this loss in effectiveness.

⁴The main information provided is: staffer name; start and end dates for a given employment spell; office of employment within Congress; the job title or position; and the total salary amount for a given job spell. We extract this information for all staffers working in personal and committee offices since the beginning of the database in 2000.

We match names from each of the political employment databases against the lobbying reports data using a string-based algorithm. Numerous checks are made to ensure the accuracy of the match, with details reported in the online Appendix.

C. Descriptive Statistics

Table 1 gives some descriptive statistics of our dataset. We find in panel A that the average private lobbying firm employs 2.8 lobbyists and generates close to \$700,000 in revenue.

Panel B reports information on the prevalence of former political employees. They represent 41.6 percent of all lobbyist-year observations. Over half of the group of former political employees is made up of former congressional staffers (22.6 percent of the total sample) while the remainder is comprised of ex-congressmen and former employees of government agencies, executive bodies, and presidential administrations. The focus of our study is the subgroup of former congressional staffers of politicians who served at some point in the 1998–2008 period covered by the LDA data.

Panel C reports the average revenue per lobbyist/year, for different types of private sector lobbyists. We calculate revenue per lobbyist in two alternative ways by summing what we call “unweighted” and “weighted” revenues across lobbying contracts. For example, consider a \$40,000 contract that is serviced by four lobbyists. The unweighted measure we define allocates each lobbyist an equal \$40,000 in revenues from this contract. The weighted measure allocates \$10,000 to each lobbyist. These revenues are then added up across all the contracts a lobbyist works on in a given period.

The two measures of revenue capture complementary aspects of the individual lobbyist-generated revenue. The unweighted measure essentially captures the revenue value of the “practice” with which each lobbyist is associated, since it aggregates the value of all the contracts in which an individual lobbyist is involved. Note that the revenue of a practice will typically be a subset of a lobbying firm revenue, especially if the firm is large. The weighted measure divides the value of each contract by the number of workers in it. It therefore captures the *revenue per worker* of the practice associated with an individual lobbyist.

The average weighted revenue per lobbyist/year ranges around \$349,000 for the subgroup of congressional staffers we consider. This figure is closely in line with the reported salaries of lobbyists in this group. For example, the *Washington Post* reported in 2005 that “[s]tarting salaries have risen to about \$300,000 a year for the best-connected aides eager to ‘move downtown from Capitol Hill’”. Industry news reports such as Brush (2010) also regularly use average revenue figures as a credible proxy for salary trends among Washington lobbyists. The average annual unweighted revenue per lobbyist takes much higher values. This is unsurprising since the full dollar value of a contract is assigned to each of the lobbyists involved in it. Figure 1 displays the distribution of unweighted revenue for ex-staffers and other lobbyists. Panel C also reveals that revolving door lobbyists generate significantly more revenue than other lobbyists. Lastly, note in panel D that revolving door lobbyists generate around 56 percent of total industry revenue. Out of this, more than half is accounted for by ex-congressional staffers.

TABLE 1—DESCRIPTIVE STATISTICS: US FEDERAL LOBBYING FIRMS, 1998–2008

	Lobbying firms
<i>Panel A. Organizational level</i>	
Mean number of lobbyists	2.8
Total revenue/expenditures	687.8
Total number of firms/organizations	3,960
<i>Panel B. Types of lobbyists</i>	
Revolving door lobbyist	0.416
Ex-congressman	0.029
Ex-staffer:	0.226
of politician serving pre-1998	0.064
of politician serving post-1998	0.134
of a congressional committee	0.027
Outside Congress	0.162
<i>Panel C. Mean revenue or expenditure</i>	
<i>Weighted</i>	
Revolving door lobbyists	309.9
Ex-congressmen	339.6
Ex-staffers	349.7
Outside Congress	253.6
Other lobbyists	170.0
<i>Unweighted</i>	
Revolving door lobbyist	1,355.5
Ex-congressmen	1,287.8
Ex-staffers	1,551.6
Outside Congress	1,109.8
Other lobbyists	682.8
<i>Panel D. Share of total industry revenue, by type of lobbyist</i>	
Revolving door lobbyist	0.559
Ex-congressmen	0.043
Ex-staffers	0.343
Outside Congress	0.182
Other lobbyists	0.441
Average number of periods	
Number of lobbyists (total)	15,315
Number of lobbyist-period observations	98,705

Notes: Panel A based on 1998–2008 panel of by period. Panels B and C based on 1998–2008 lobbyist-level panel. Length of each period is six months. Panel C presents annualized measures of revenue or expenditure per lobbyist. Panel D aggregates the weighted revenues of lobbyists in order to calculate revenue shares by type. “Ex-congressman” denotes former members of the House or Senate who are lobbyists. “Ex-staffer” represents lobbyists who have employment experience as congressional staffers. Congressional committee ex-staffers were employed in committee offices but not as personal staff to politicians. “Outside Congress” lobbyists represents lobbyists who have experience as government employees in workplaces outside of Congress.

II. Empirical Strategy

Our objective is to relate a measure of period-by-period revenues associated with each lobbyist to the number of distinct, *currently serving* politicians that the lobbyist has worked for prior to his entry into the lobbying industry. Our empirical model is as follows:

$$(1) \quad R_{it} = \alpha_i + \beta P_{it} + \mathbf{X}_{it}' \cdot \theta + \gamma_t^{pc} + \epsilon_{it},$$

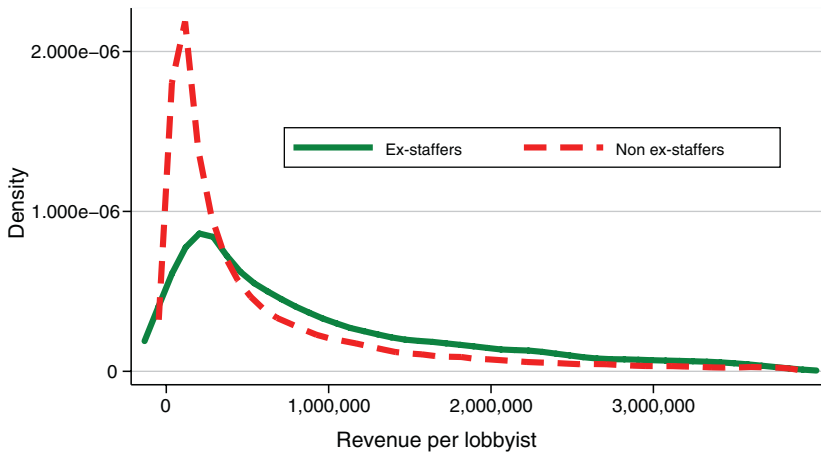


FIGURE 1. DISTRIBUTION OF REVENUE PER LOBBYIST

where R_{it} is the (log) dollar revenue per individual lobbyist i in time period t . The vector \mathbf{X}'_{it} represents time-varying characteristics measured at the individual level, α_i is the lobbyist-specific fixed effect, and γ_t^{pc} is a set of distinct time period effects for each subgroup of lobbyists. The time periods used are the 6-month periods required for reporting under the LDA, giving us 22 periods from 1998–2008, inclusive.

The key variable of interest is P_{it} , the count of currently serving politicians the lobbyist is linked to through his previous employment experience (note, however, that few lobbyists are connected to more than one senator or representative). There are two points worth highlighting here. Firstly, P_{it} only measures links with former political employers. Since we ignore the wider set of connections acquired by ex-staffers, we are probably undercounting the total value of political connections. Secondly, P_{it} is time-varying, as it goes down in value when a connected politician leaves office. The underlying hypothesis here is that politicians in office are particularly relevant for contemporary legislative outcomes. Serving politicians are able to vote on and influence the development of current legislation and this will be of interest to potential lobbying clients. The access that a lobbyist has with respect to his connected politician is therefore made obsolete when that politician is no longer in office.

Clearly, individual ability and expertise can be correlated with government experience as well as being a predictor of generated revenue. The inclusion of the α_i fixed effects implies, however, that β is identified from the variation in P_{it} described above. In other words, we compare the revenues of lobbyists who lose a political connection to the revenue of lobbyists whose connections remain constant.

We further narrow the comparison group by including γ_t^{pc} , which are separate time effects for lobbyists connected to politicians in different parties (Democrat versus Republican) and chambers (House versus Senate). The inclusion of these time effects accounts for the fact that congressmen exits are likely to be correlated with shifts in party influence that can independently affect the ability to generate revenue. After including separate time dummies, our identifying assumption is that the revenue of lobbyists suffering a loss of a connection would have evolved similarly to

the revenue of lobbyists connected to nonexiting politicians in the same party and chamber combination.

One relevant variation of equation (1) relates to timing. To study how lobbyists' revenues evolve in the individual periods just before and after the change in P_{it} , we can estimate

$$(2) \quad R_{it} = \alpha_i + \sum_{l=-L}^L \beta_l P_{i(t_0+l)} + \mathbf{X}'_{it} \cdot \theta + \gamma_t^{pc} + \epsilon_{it},$$

where t_0 represents the transition period (i.e., when a politician exited Congress) and l flags the periods either before or after this period. This provides a set of time effects leading up to and following the transition period. We can use these, for instance, to examine whether revenue was already falling even before a connected politician's exit.⁵ We can also study whether revenue spikes up in anticipation of an exit. Finally, equation (2) also allows us to study whether revenue recovers in the short or medium terms following the politician's exit.

Clearly, our identification strategy depends on the nature of the variation in P_{it} . Figures 2A and 2B show the number of lobbyists in the sample affected by the exit of a connected politician. In total, there are 257 lobbyists affected by these exits (94 for Senate exits, 163 for House exits), representing 20.9 percent of all ex-staffer lobbyists. Approximately half of exits are due to voluntary retirement of politicians. The next largest group of exits occurs as a result of defeats at reelection. The remainder of the exits is made up variously of lobbyists affected by politicians who die, leave due to a scandal, or run for another office (either successfully or unsuccessfully).

Finally, it should be noted that measurement error has the potential to attenuate our estimates in two ways. Firstly, there is the potential measurement error related to the name matching of lobbyists between our political employment and lobbying reports databases.⁶ Secondly, there is measurement error related to R_{it} , arising from the fact that the size of the team serving a client is potentially an endogenous variable. For example, in a single-person firm it is straightforward to attribute revenues from clients to an individual lobbyist. But this becomes more complicated as the size of a firm increases, since as this happens team size becomes a firm choice variable. To minimize this problem, our regressions below use the unweighted measure of lobbyist revenues where we count the full value of contracts where a lobbyist is named and do not divide by team size before summing across a lobbyist contracts.⁷

⁵This could be due, for instance, to the presence of "shared trends" between politicians and lobbyists. If low-ability lobbyists sort toward employment with low-ability politicians facing electoral defeat (and ability affects trends as well as levels), then revenue could be trending downward before exit.

⁶That is, lobbyists may have been either falsely matched to a politician or not assigned a true connection. It can be shown that this type of binary measurement error imparts a downward bias to β (Aigner 1973; Khwaja and Mian 2005).

⁷A second, more subtle, reason to use the unweighted measure is that it allows us to provide a better approximation to the marginal value of a political connection. To see this, consider a revolving door lobbyist A working with another lobbyist B. Imagine that together they generate \$40,000 before the loss of A's connection and \$30,000 after (and, obviously, that the loss in connection is orthogonal to other events affecting both lobbyists). While we cannot measure each individual's overall contribution to the team, we can reasonably conclude that the marginal value of A's connection was \$10,000. This is what we would predict using the unweighted measure of revenue, while using the weighted measure we would instead estimate the value of A's connection as \$5,000. Note, lastly, that we have estimated the full range of models reported in Section IV using the weighted measure and have found very similar results. We report our main results using the weighted measure in the online Appendix.

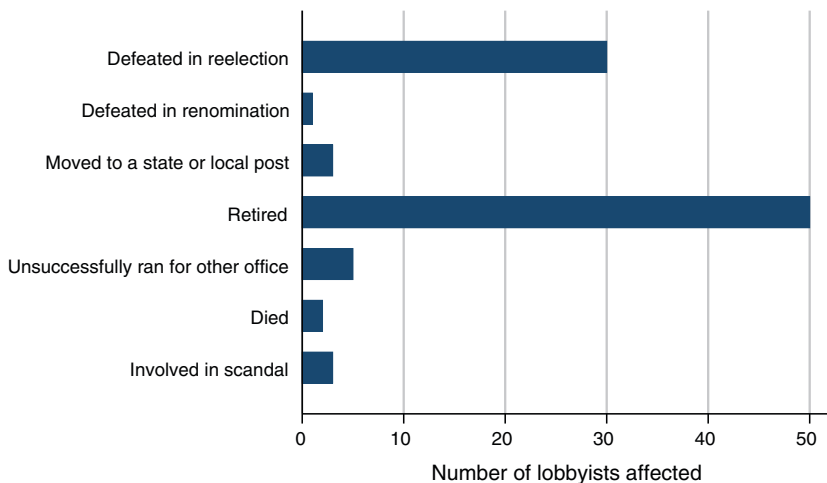


FIGURE 2A. REASONS FOR LOSS OF SENATE CONNECTION, BY NUMBER OF LOBBYISTS

Notes: This figure presents the lobbyists affected by the exit of a connected senator, disaggregated by the reasons for exit. Total number of lobbyists affected by a senator exit = 94.

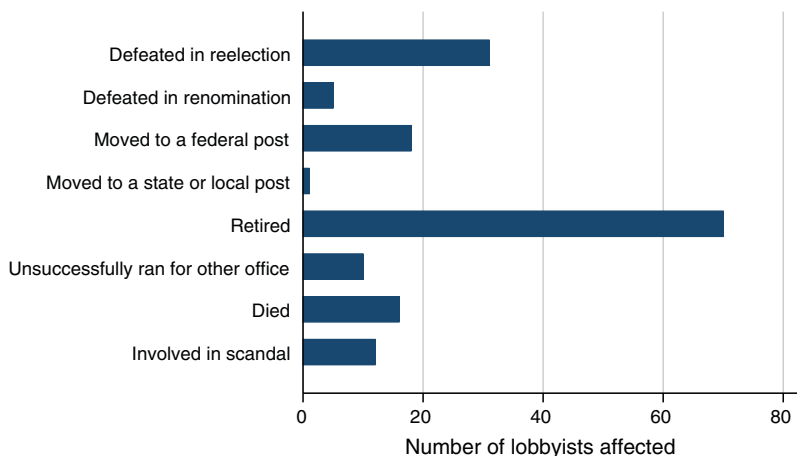


FIGURE 2B. REASONS FOR LOSS OF HOUSE CONNECTION, BY NUMBER OF LOBBYISTS

Notes: This figure presents the lobbyists affected by the exit of a connected representative, disaggregated by the reasons for exit. Total number of lobbyists affected by a representative exit = 163.

III. Results

A. Average Effects of Revolving Door Connections

Table 2 displays the estimates of empirical model (1). In column 1 we control only for individual lobbyist dummies. We find that being connected to a serving senator is associated with 23 percent higher revenue, whereas the point estimate for a connection to a serving representative is only 9 percent and not statistically different

from 0. Note that the difference in the estimated effects across the two chambers is consistent with the notion that it is the political power of the connected serving politician that matters. Senators are typically more powerful than representatives. For example, there are four times fewer senators than representatives and senators are uniquely able to wield filibuster powers that can slow down or completely block legislation.

As discussed earlier, other ex-staffers may not represent a valid comparison group for a lobbyist connected to an exiting politician. In the next three columns we restrict the comparison groups and also control for the effects of lobbyist experience. In column 2 we add a full set of party-time dummies (allowing demand shocks to differ across former Republican and Democratic ex-staffers) while column 3 splits this further into party-chamber effects. Column 4 adds controls for lobbyist experience and its square. In this last and most comprehensive regression the exit of a connected senator is associated with 24 percent lower revenue.

Remarkably, the inclusion of extra controls only translates into very minor shifts in the coefficients for the senators and representatives variables. This suggests that politician exits are in practice a source of variation that is separate from party- and chamber-related revenue shifts.⁸

In the online Appendix we examine the robustness of our baseline results to the estimation of more stringent specifications. In particular, (i) we interact individual lobbyist dummies with the identity of the party in power; (ii) we include individual-specific time trends; and (iii) we add lobbying firm fixed effects to the individual lobbyist fixed effects. The point estimates are very consistent across specifications and the effect of being connected to a senator is always statistically significant at conventional levels.

Our estimate for connections to serving senators is economically as well as statistically significant. Evaluated at the mean of the yearly revenue generated by an ex-staffer's practice in our sample (\$1,551,600 from Table 1), our estimate suggests that an active Senate connection translates into approximately \$372,000 per year. We believe, however, that the median, rather than the mean, value of revenue represents a better measure for the typical ex-staffer. The reason is that, as Figure 1 shows, the distribution of unweighted revenue has a very long right tail, with the median value being \$760,000, around half of the mean value. Evaluated at the median, our estimate suggests that an active Senate connection translates into approximately \$182,000 per year higher revenue for the value of an ex-staffer practice.⁹

B. Timing Effects

In Table 2 we have presented evidence on the effect of political transitions on lobbyist revenue *averaged over time*. That is, we were comparing lobbyists' revenues in

⁸In the online Appendix we explore whether lobbyists connected to the Democratic party earn more revenue in periods in which the Democrats control Congress. We find major revenue effects of party control; see also Eggers (2010).

⁹What share of these \$182,000 reverts in terms of salary to the ex-staffer holding the connection is of course difficult to establish. Under the assumption that each of the lobbyists included in a contract gets rewarded according to the value of the assets that he contributes to the team, there would be a proportional loss in earnings for the individual ex-staffer.

TABLE 2—AVERAGE EFFECTS OF REVOLVING DOOR CONNECTIONS ON LOBBYING REVENUE

	Dependent variable: (log) revenue per lobbyist			
	(1)	Plus party (2)	Plus chamber (3)	Plus experience (4)
Number of senators:	0.23*** (0.07)	0.23*** (0.07)	0.21*** (0.07)	0.24*** (0.07)
Number of representatives	0.09* (0.05)	0.07 (0.05)	0.08 (0.05)	0.10* (0.05)
Individual dummies	Yes	Yes	Yes	Yes
Time	Yes	No	No	No
Time \times party	No	Yes	No	No
Time \times party \times chamber	No	No	Yes	Yes
Lobbyist experience	No	No	No	Yes
Individuals	1,113	1,113	1,113	1,113
Observations	10,418	10,418	10,418	10,418

Notes: This table presents the average effects of political connections on ex-staffers lobbying revenue. The dependent variable is the log of the revenue generated from all the clients that an individual lobbyist serves in a time (semester) period. The two main independent variables are the number of senators and representatives that an individual lobbyist worked for previous to entering the lobbying industry *and are serving in Congress in that time period*. All regressions use a sample containing ex-staffers-turned-lobbyists and include both individual lobbyist dummies and time effects (i.e., semester dummies). Column 2 allows for different time effects for lobbyists connected to politicians in different parties (i.e., Democrats versus Republicans). Columns 3 and 4 allow for different time effects for lobbyists connected to politicians in different party/chamber combinations (i.e., Democrats in the Senate, etc.). Column 4 includes lobbyist experience (i.e., number of periods that a lobbyist appears in the sample) in quadratic form. Standard errors are clustered by lobbyist.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

the average period before, and average period after, a given change in P_{it} . In Figure 3 we plot the results of estimating equation (2) for connections to serving senators. We use a window of 12 time periods (i.e., 6 years) around the time at which a politician's transition takes place. We have normalized the baseline to be period t_0 , the last period in which a senator was still serving in Congress. The estimates should therefore be interpreted as relative to period t_0 .

Several conclusions emerge from Figure 3. First, there is no strong evidence of either an upward or a downward trend in the periods leading up to a connected politician's exit. We can therefore reasonably rule out that our estimated average effects are due to the presence of shared trends between the fortunes of lobbyists and the politicians that they are connected to. Second, Figure 3 also seems inconsistent with the notion that abnormally high revenues occur prior to a politician's exit. It appears therefore that anticipation effects do not seem important, either because most exits are unanticipated or because lobbyists are unable or unwilling to extract higher revenue while a connection is still valuable. Third, there is also no evidence of reverse causality from lobbying revenue into the connected politician's exit. Note that period t_0 captures the last semester in which a politician served in Congress.¹⁰ We find that lobbying revenue during that semester, which could have

¹⁰For politicians leaving at the end of their term, perhaps due to a reelection defeat, this comprises the period between July and December, which includes the November election date.

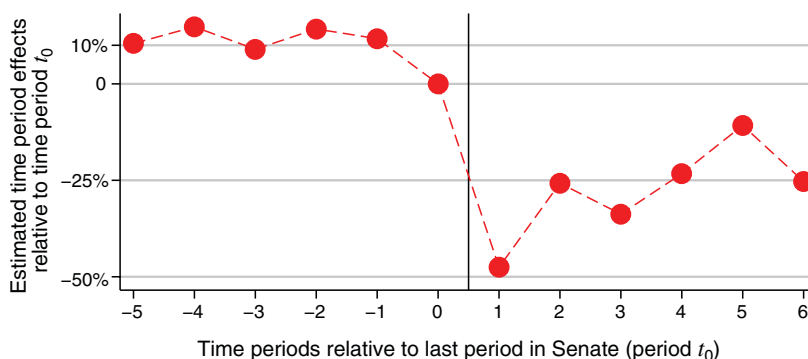


FIGURE 3. TIMING EFFECTS

Notes: Figure 3 displays the estimated time period effects leading up to and following the transition (exit from Senate) period from equation (2) in Section III. Each period comprises six months. The left-hand side is lobbyist (log) revenue as in Table 2. The sample includes all lobbyists with at least four observed periods before a transition and at least two periods after. Right-hand side variables include individual lobbyist dummies and party-chamber time dummies, as well as estimated period effects. Every estimated effect is relative to period t_0 —the last period in which a senator is still serving in Congress. Since period t_0 is the omitted group, there is no estimated effect for this group. We, however, display an “effect” of 0 at t_0 to aid visual analysis.

potentially affected the politician’s reelection chances, is very similar to that of previous semesters. It is only in the following semester, once the senator has already left office, that the connected lobbyist’s revenue collapses. Thus, the timing of the drop in revenues relative to the timing of the politician’s exit does not hint to the existence of reverse causality.

Our last conclusion from Figure 3 is that the negative effect of a connected politician’s exit is highly persistent. There is evidence of a large drop in the period immediately after a politician’s exit followed by some reversion. Lobbyists, however, are still subject to a 20 percent drop in revenues even 6 semesters after a politician’s exit. This suggests both that lobbyists’ links to their former employers are a major component of their overall political network and that lobbyists are not able to compensate for the loss of such a valuable connection using unobserved margins of adjustment.

C. Effects Disaggregated by Political Power

Our interpretation of the average effects in Table 2 is that being connected to an individual holding political power allows a lobbyist to generate higher revenue. If our interpretation is correct we should expect individuals connected to more powerful politicians to suffer a larger drop in lobbying revenue when those politicians leave Congress.

One way to examine the hypothesis that it is political power that matters is to split politicians by their committee responsibilities at the legislator’s point of exit. Ideally, we would like to create a different variable for connections to politicians in each of the different committees in the House and Senate. Our sample sizes, however, do not allow for such a level of disaggregation. We therefore decided to concentrate on

what are arguably the two most important committees in the House and Senate—the Finance and Appropriations Committees in the Senate and the Ways and Means and Appropriations Committees in the House (Groseclose and Stewart 1998; Stewart and Groseclose 1999). These are committees with budget responsibilities and therefore are particularly prone to be lobbied. These are also large committees that offer bigger cell sizes for our testing. We split lobbyists according to the service of their connected politicians on these committees at the time of the politicians' exits from Congress.

Table 3 displays the results. We find that lobbyists connected to senators serving in the Finance and Appropriations Committees suffer losses in revenue of 36 percent and 45 percent, respectively, when those senators leave office. Similarly, we find that lobbyists connected to representatives serving on the Ways and Means Committee suffer losses in revenue of 35 percent when those representatives leave office. On the other hand, politicians serving in neither of these committees do not affect their affiliated lobbyists' revenue when they leave Congress.¹¹

As an additional exercise, we also studied whether there is evidence of an increase in generated revenue when connected politicians remain in Congress and join important committees. We found that being connected to senators in the Finance Committee and Representatives in the Ways and Means Committee is indeed associated with significant revenue premiums. We regard this evidence as consistent with the main message of the paper, and we display it in the online Appendix.

D. Participation in the Lobbying Industry

The models and estimates presented above show a strong effect of changes in political connections on lobbyist revenues. As a result of this revenue effect, changes in political connections could also affect an ex-staffer's decision about whether to work in the lobbying industry at all. To study whether this is the case, we expand our dataset to include, for each individual, every period following the end of their employment as a staffer.¹² We then define the variable $A_{it} = 1$ if individual i served any client during period t and 0 otherwise. Our new dataset contains 16,882 observations and the mean of A_{it} is 0.62. We then estimate a variation of equation (1) using A_{it} as our new dependent variable.

Table 4 displays the results of estimating our variation of equation (1) using linear probability models. We find that being connected to a currently serving senator is associated with 27 percent higher likelihood of working as a lobbyist. Our estimate for the representative effect is much smaller and statistically insignificant. Again, including or excluding lobbyist experience and separate subgroup time effects has little impact on our coefficients.

Our findings from Table 4 are robust to the use of nonlinear (logit) models. We also find very similar effects when we expand our dataset further to include, for

¹¹ In the Senate, the "neither" group is statistically different from the "Finance" and "Appropriations" groups at the 1 percent and 10 percent levels, respectively. In the House, the "neither" group is statistically different from the "Ways and Means" group at the 1 percent level.

¹² For instance, if an individual left his or her job in Congress at the end of 2002 then our sample contains observations for this individual over the period 2002–2008, whether or not he or she was actually working as a lobbyist.

TABLE 3—EFFECTS DISAGGREGATED BY POLITICIAN COMMITTEE ASSIGNMENTS

	Dependent variable: (log) revenue per lobbyist	
	(1)	Plus party-chamber and experience (2)
Number of senators:		
in Finance	0.36*** (0.09)	0.36*** (0.09)
in Appropriations	0.40** (0.16)	0.45*** (0.15)
in neither	−0.12 (0.12)	−0.11 (0.12)
Number of representatives:		
in Ways and Means	0.37*** (0.10)	0.35*** (0.10)
in Appropriations	0.07 (0.11)	0.06 (0.11)
in neither	−0.01 (0.06)	0.03 (0.06)
Individual dummies	Yes	Yes
Time	Yes	No
Time × party × chamber	No	Yes
Lobbyist experience	No	Yes
Individuals	1,113	1,113
Observations	10,418	10,418

Notes: This table presents the effects of Table 2 separately for different levels of politician committee assignments. The dependent variable is as in Table 2. The main independent variables are as in Table 2, with the exception that connections to senators and representatives are disaggregated by the politician committee assignments *at the time of leaving Congress*. All regressions use a sample containing ex-staffers-turned-lobbyists and include individual lobbyists dummies and time effects (i.e., semester dummies). Column 2 allows for different time effects for lobbyists connected to politicians in different party-chamber combinations (i.e., Democrats in the Senate, etc.) and also includes lobbyist experience (i.e., number of periods that a lobbyist appears in the sample) in quadratic form. Standard errors are clustered by lobbyist.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

every lobbyist, each period between 1998 and 2008. This evidence can be found in the online Appendix.¹³

IV. Concluding Remarks

In this paper we show that ex-government officials extract monetary rents in terms of generated lobbying revenue from their personal connections to elected

¹³The existence of a participation effect suggests that we may be underestimating the value of connections in our main regressions. This is because we would expect the hardest-hit lobbyists to be more likely to exit the industry. To study this, we assigned the exiting lobbyists revenue observations equal to their final observation before dropping out of the industry. We regard this final revenue figure as an upper bound for what the exiting lobbyist would have earned had he decided to remain in the industry. The effect of applying this bound is shown in the online Appendix.

TABLE 4—PARTICIPATION IN THE LOBBYING INDUSTRY

	Dependent variable: $A_{it} = 1$ if individual i generated positive revenue in period t	
	(1)	Plus party-chamber and experience (2)
Number of senators	0.19*** (0.05)	0.27*** (0.05)
Number of representatives	0.02 (0.04)	0.06 (0.04)
Individual dummies	Yes	Yes
Time	Yes	No
Time \times party \times chamber	No	Yes
Lobbyist experience	No	Yes
Individuals	1,113	1,113
Observations	16,882	16,882

Notes: This table presents the effects of political connections on ex-staffers' participation in the lobbying industry. The dataset contains, for each individual, every period following the end of their employment as a staffer. The dependent variable takes value 1 when an individual generates positive lobbying revenue in a time (semester) period and 0 otherwise. For instance, if an individual left his or her job in Congress at the end of 2002, then our sample contains observations for this individual over the period 2002–2008, whether or not he or she was actually working as a lobbyist. The main independent variables are as in Table 2. All regressions include individual lobbyists dummies and time effects (i.e., semester dummies). Column 2 allows for different time effects for lobbyists connected to politicians in different party/chamber combinations (i.e., Democrats in the Senate, etc.) and also includes lobbyist experience (i.e., number of periods that a lobbyist appears in the sample) in quadratic form. Standard errors are clustered by lobbyist.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

representatives. Overall, our findings suggest that access to serving officials is a scarce asset that commands a premium in the market for lobbying services.

Before we discuss the contributions to existing research, it is worth pointing out some limitations of our study. While our focus on ex-staffers provides us with a strong identification strategy, the extent to which our findings apply to other lobbyists can be debated. Some revolving door lobbyists (e.g., ex-congressmen) may benefit even more from connections to serving government officials, while others (e.g., ex-agency staffers) may rely less on connections and more on the expertise acquired while in government. Obviously, our estimates are not easily extrapolated to lobbyists with no government experience, although they help to explain the fact that these lobbyists generate substantially less revenue (Table 1) and are known to command lower salaries (Brush 2010). While acknowledging our exclusive focus on ex-staffers, we note that these represent a leading fraction of the lobbying industry, accounting for 34 percent of total revenue (Table 1).

A related limitation stems from our unique focus on the relationship between ex-staffers and their former employers. We would expect staffers to have developed a wide range of relationships with both elected representatives and other staffers. Since our study is based on one single relationship (albeit an important one), it probably undercounts the value of political connections.

Lastly, we provide no direct evidence on the existence of a “payback” for lobbying clients. Our contribution to the vast literature estimating the returns to lobbying and campaign contributions (de Figueiredo and Silverman 2006) is therefore only indirect. Namely, the fact that firms and interest groups are eager to hire the services of well-connected individuals suggests that they expect a return in terms of favorable legislative outcomes. Likewise, our findings cannot discriminate between alternative theories of what lobbying is. Our connected lobbyists could arguably serve as a conduit of both quid pro quo offers (Grossman and Helpman 1994) and information (Austen-Smith 1996). That said, existing theories do not account for the role of intermediaries in the lobbying process and this is an area where our findings suggest that future research could provide valuable insights.

With the caveats above, we believe that our findings have implications in terms of the career incentives of staffers (and probably other government officials). We have shown that staffers’ political connections are a perishable asset; in other words, they last only as long as the connected politicians remain holding office. This implies that staffers may have relatively short careers. Once a connection to a powerful senator has been established, it may make sense to move into lobbying and cash in on this unique asset while it is still valuable. Of course, the existence of rents associated with post-government employment could widen the pool of applicants for staffer positions, and potentially allow congressmen to hire high-ability individuals at the lower salaries that the public sector typically offers (Caselli and Morelli 2004; Besley 2005).

Our paper also has the potential to inform policy. One common instrument to regulate the revolving door phenomenon is to impose “cooling off” periods to officials leaving public office (Ethics Reform Act of 1989; Honest Leadership and Open Government Act of 2007; for a review, see Maskell 2010). The perishable nature of ex-staffers’ assets suggests that such restrictions could in fact be quite useful to a legislator interested in significantly decreasing the attractiveness of a lobbying career for ex-government officials.

Finally, this paper contributes to our more general understanding of what makes workers valuable in professional services industries. The empirical results show that professional experts working in the lobbying industry are valued not only for their technical knowledge but in large part also for their personal connections (Oyer and Schaefer 2010; Singh, Hansen, and Podolny 2010). Hence, one insight from our study is that a large proportion of the premia that experts command in professional industries is likely to be comprised of so-called relational capital (Burt 1992; Kale, Singh, and Perlmutter 2000). Furthermore, the relational capital that this paper has studied is clearly valuable only in a very specific geographic and sectoral setting. A second insight from our paper is therefore that relational capital is likely to represent a large part of what is usually classified as industry-specific human capital (Neal 1995).

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